

Infrared Camera Requirements

The Naval Research Laboratory (NRL) has a requirement for a total of three (3) long-range infrared surveillance cameras to support the Rocket Launch Spotter (RLS) project. These cameras will be mounted outdoors on 100 foot towers, and must survive in desert conditions.

1. Day and night operation: Camera must provide usable imagery during both day and night conditions.
2. Temperature: Camera must operate in temperature range of -20 to +65 C.
3. Camera must be equipped with a remotely operable pan and tilt mount capable of at least 330 degree (+/-165 degrees) azimuth rotation and at least +/- 30 degrees elevation.
4. Camera must be equipped for remote operation of all functions.
5. Stabilization: Vendor must supply camera system with Dynapel SteadyEye SE or similar video stabilization system.
6. Camera must have a minimum Focal Plane Array (FPA) size of 320x240 pixels, with a pitch of 30 microns or less.
7. Camera lens must either have a zoom function or be switchable between at least 2 fields of view (FOVs).
8. Camera System must be compatible with either 115vac (single phase, 60 cycle) or 28vdc prime power.
9. Camera system must weigh less than 75lbs (total installed weight on top of tower, excluding Dynapel box).
10. Camera system must be painted white.
11. Camera housing must be weatherproof and must incorporate a sunshade/glareshield.
12. Camera system must be supplied with a Hand Controller to allow operation of the camera manually during RLS development.
13. Lens Heater: Camera system must incorporate any necessary lens heating system required to allow proper performance of the system over its specified temperature range.
14. Cables must use MIL-C-38999 or equivalent weatherproof connectors with strain relieving back shells.
15. Cable jacketing must be capable of providing strain relief sufficient to support dead

weight of 120 feet of cable, hanging vertically, when held by an external grip/clamp. NRL will provide a strain relief for all of the bundles at the top of the tower, and provide a free length to handle housing and camera rotation requirements above that. The cables connectors should be capable of providing strain relief for the 4-5 feet of cable above the grip.

16. Mounting requirements: mounts within a 5 inch circular footprint. The preferred mounting is a 4x1/4-28 - 3.36"x3.36" rectangular pattern. Alternate patterns are acceptable provided they will not intersect with the specified preferred pattern.

17. Camera must have capability to select polarity (white-hot or black-hot).

18. Camera must be capable of detecting a standard tank target at 20km range.